

Promoting students' critical thinking through reading strategy instruction in a reading class

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Abstract

This study examined the application of Reading Strategy Instruction (RSI) in a reading class to promote the critical thinking skills of the second language learners. It aims to find out (1) the critical thinking elements in the questions formulated by the participants before the application of RSI, and (2) the critical thinking elements found in the (a) three selected questions, (b) answers, and (c) reflections written by the participants after the application of RSI. This study included sixteen grade 11 participants of a bilingual school in Jakarta, aged between 16 to 18 years old. The participants underwent two stages (1) before the application of RSI, and (2) after the application of RSI. The RSI applied in this study was a modification of Rothstein & Santana's (2014) "Question Formulation Technique" and Alder's (2001) comprehension strategies in answering questions. The collected data were analysed by using the modified critical thinking indicators proposed by Mason (1991) and Henri (1992). The results of the study revealed that applying RSI in the reading class was beneficial in promoting the participants' critical thinking skills. RSI helped the participants to (i) think differently, (ii) use prior background knowledge, (iii) question the facts given in the text, (iv) identify the issues given in the text, (v) give valid solutions to the problem, (vi) connect themselves with the text and the world, and (vii) justify their arguments using valid examples.

Keywords: critical thinking, reading strategy instruction, EFL students

Introduction

Reading is regarded as one of the essential language skills for ESL/EFL learners to succeed in academic purpose and professional development (Dorkchandra, 2010). It is a multilevel interactive process that results from the negotiation of meaning between the writer and the reader's

personal experience and background knowledge (Shihab, 2011). It is also a cognitive process by which ESL/EFL learners try to think and understand the author's thoughts by interpreting and analysing the symbols and ideas given on the printed page.

As reading is thinking (Estates, 2016), readers need to connect what they know and what is in the text, and they also need to think inferentially to figure out the meaning in the absence of explicit information (Harvey, 2016). In L2 reading classrooms, learners often struggle to understand a text for a variety of reasons, including lack of engagement, weak decoding and fluency skills, inadequate vocabulary and background knowledge, and ineffective strategies for setting a purpose for reading (Lipson & Wixson, 1997; Paris et al., 1991). In order to be effective readers, the learners have to monitor their understanding, and when they lose the meaning of what they are reading, they have to select and use a reading strategy "that will help them reconnect with the meaning of the text" (Wichadee, 2011, p. 33).

In helping ESL/EFL learners to think critically, it is believed that RSI helps the learners to build "on their already-established cognitive abilities and background knowledge" (Mikulecky & Jeffries, 2004, p.183). The benefits of applying RSI in L2 reading classes are, among others, it helps the learners to achieve higher scores, it motivates the struggling students, it improves students' reading comprehension, and it raises their metacognitive awareness (Sinambela et al., 2015).

In traditional ESL/EFL classes, a teacher is usually the dominant figure. He/she does not give enough opportunity to the students to share their knowledge and the culture they bring to the second language classroom. To date, the paradigms of teaching have shifted from teacher-centred to student-centred. RSI does not focus on the activities of the teachers, but it should help L2 to understand the text as well think critically about what they have read. The teachers' job is to encourage their students to experience the world's richness, to empower them by asking them to create their own questions and answer the questions, and then challenge them to understand the world's complexities (Brooks & Brooks, 1993).

In the context of this study, based on my personal observation the language teachers seldom give a chance to the students to ask questions and reflect what they have read in their reading classroom. This made me realize that there is a need to help second language learners in their reading classroom so that to their comprehension and critical thinking skills will improve. It is my wish that the appropriate reading strategy instruction that I proposed in conducting a reading class will help the students to improve their critical thinking skills and achieve the highest comprehension.

The current study investigated the following research questions:

1. What critical thinking elements are found in the questions formulated by the students before applying the reading strategy instruction?
2. What critical thinking elements are found in (a) the three questions selected by the students, (b) the answers written by the students and (c) the reflections written by the students after applying the reading strategy instruction?"

Theoretical Framework

This section gives a brief description of the theoretical framework used by the researcher in applying the reading strategy instruction and also the approaches of critical thinking elements used to analyse the collected data.

Table 1
Reading Strategy Instruction

Read the text and write as many questions as you can
Reread the text and select three questions using the following guiding instruction. Questions that <ul style="list-style-type: none">● most interest you● are most important● will best help you to solve the problem / need to answer.
Answer the selected three questions using the following guiding instruction. Answer with <ul style="list-style-type: none">● suitable arguments● examples of personal experience● suitable evidences
Write reflections using the following guiding instruction. Reflect on <ul style="list-style-type: none">● What did you learn from the text?● What is the value of learning to ask questions?● Can you think of similar situations in which you could apply what you have learnt from the text?

Reading Strategy Instruction

This section gives a description of the teacher’s role in a reading class to scaffold the students’ better understanding of the text. In the context of reading comprehension, Clark & Grave (2005, p.572) have classified three types of scaffolding: (1) moment to moment verbal scaffolding (2) instructional framework that foster content learning and (3) instructional

procedures for teaching reading comprehension. The present study focused on the third type of scaffolding which emphasizes on an instructional explicit procedure for teaching reading comprehension. In this study, I used the modified questioning strategies of Rothstein & Santana (2014) and the comprehension strategies of Alder (2001). Table 1 above illustrates the reading strategy instruction applied in this study.

Critical Thinking Elements

To answer the two research questions, I used the modified critical thinking elements proposed by Mason (1991) and Henri (1992). The study used the questions in the form of statements in the critical thinking elements in addition to Henri’s (1992) three of the critical thinking indicators: (1) Asking relevant questions, (2) Making value judgements, and (3) Proposing one or more solutions. The modified critical thinking elements are presented in Table 2 below that gives the details of the modified critical thinking elements used for the study.

Table 2
Modified critical and non-critical thinking elements

Critical	Non-critical
Posing topic focused questions (open-ended)	Posing non-topic focused close-ended questions
Discussing about important points/ issues	Using unimportant points/ irrelevant issues
Gaining new information/ ideas	Repeating the ideas
Using background knowledge during the discussion	Using the knowledge gained from the text
Using personal experience to support their arguments	Using irrelevant examples
Relating the similar situations	Relating it to irrelevant situations
Discussing about the information that is not given in the material and it is relevant (thinking out of box)	Discussing about the information given in the text
Providing valid solutions/ justification to the arguments raised	Answering the questions without any justification
Using logical reasoning to support their arguments	Using illogical reasoning to support their arguments
Questioning the author / the facts given in the text	Being unable to question the facts/ invalid questions
Producing clear and unambiguous statements	Using confused statements
Reflecting on the issues connected to the world	Reflecting on the issues limited to the text
Applying, criticizing and comparing the knowledge learnt in similar situations in the reflections	Reflecting without applying / criticizing / comparing the knowledge learnt.

Table 3
Critical thinking elements (Questions)

CT Elements	CT and non-CT
1. Posing topic-focused Questions	a. Focused (CT)
	b. Non-focused (non-CT)
2. Questions to gain new information/ideas	a. In-depth (CT)
	b. Superficial (non-CT)
3. Questions related to “thinking out of box”	a. Investigative (CT)
	b. Factual (non-CT)
4. Questioning the author / the facts given in the text	a. Valid criticisms (CT)
	b. Invalid criticisms (non-CT)

Table 4.
Critical thinking elements (Answers)

Critical thinking elements	CT and non-CT
Discussing important & relevant issues	a. Relevant & detailed (CT)
	b. Relevant but precise (non-CT)
Gaining new information/ ideas	a. New perspective (CT)
	b. Repetitive (non-CT)
Using background knowledge	a. Effective (CT)
	b. Ineffective (non-CT)
Using personal experience	a. Relevant (CT)
	b. Irrelevant (non-CT)
Relating similar situations	a. Relevant (CT)
	b. Irrelevant (non-CT)
Thinking out of box	a. Think differently (CT)
	b. Think conventionally (non-CT)
Providing valid solutions	a. Valid solutions (CT)
	b. Invalid solutions (non-CT)
Justifying arguments with suitable examples	a. Valid arguments (CT)
	b. Invalid arguments (non-CT)
Using logical reasoning to prove their opinion	a. Logical (CT)
	b. Illogical (non-CT)
Writing clear and unambiguous statements	a. Proficient (CT)
	b. Ambiguous (non-CT)

From the above Table 2 modified critical thinking elements, I then divided the critical thinking elements into two categories, namely critical thinking (CT) and non-critical thinking (non-CT) as shown in Table 3. Table 3 indicates the critical thinking elements that are relevant for research

question (1) and (2a), Table 4 shows the critical thinking elements for the students' answers (research question (2b)), and Table 5 shows the critical thinking elements for the reflections (research question (2c)).

Table 5.
Critical thinking elements (Reflections)

CT Elements	CT and non-CT
1. Value of asking questions	Reflect with suitable examples (CT)
	Reflect without examples (non-CT)
2. (i) Relating similar situations in real life	(i) a. Specific (CT)
	b. General (non-CT)
(ii) Lesson learnt after reading the text	(ii) a. Connected to the world (CT)
	b. Limited to the text (non-CT)

An example of how the elements are used is given below. For example, for the question “To what extent do children copy the aggressive behaviour in real life situations?” one student’s answer is as follows:

Due to fantasy from the TV shows children could imagine, they tend to bring this to their life. For example, school life. Children nowadays are more difficult to handle since they tend to think critically [.....] They could create conflicts with other students, they could disobey the teacher [.....] The children, or shall I call “victim” will practice and copy the behaviour like shouting, screaming, hitting, or even other brutal behaviour that sometimes could be hard to be controlled.

The above example shows the use of one of the critical thinking elements i.e. *justifying arguments with suitable examples*. The participant could justify his argument on how TV shows influenced children and he could also provide a suitable example for the tendency of copying an aggressive behaviour in real life.

Research Methodology

Sixteen grade 11 students of a bilingual school in Jakarta participated in this study. The students age ranges between 16 to 18 years old. The participants underwent two stages (1) before the application of RSI, and (2) after the application of Reading Strategy Instruction (RSI). The RSI applied in this study was a modification of Rothstein & Santana’s (2014)

“Question Formulation Technique” and Alder’s (2001) comprehension strategies in answering questions.

In this study, I designed several tasks involving reading, speaking, and writing micro-skills. Prior to reading the text, I asked the participants to watch a video with a provoking issue (with a duration of 1.41 minutes). This was done to motivate the students to learn and at the same time provide them with some background knowledge of the reading topic. The video was downloaded from the YouTube entitled, “8-Year-Old Boy Shot 90-Year-Old Grandmother after Playing Grand Theft Auto IV video game.”

After watching this video, the participants were asked to reflect on the video. Then, a few discussion questions were presented to the students such as “Why did this incident happen?”, “Is it because of the influence of the game?”, “Is there any other reasons for the boy to behave like that?”, “Do you think the boy got influenced from the video game he played?”

This warming-up session took place for about 40 minutes. It was intended to set students on an analytical thinking mode. It included a practice on how to frame closed-ended questions (answers by a simple ‘yes’ or ‘no’) and open-ended (answers which require more thought and not simply ‘yes’ or ‘no’).

Reading a text and generating questions

The participants, then, were asked to read a text entitled “Cartoon violence makes children more aggressive”. The material used in this study was taken from the IB Cambridge textbook, and was chosen to fit the participants’ level of understanding and interest. The content of the text is considered appropriate for 16 to 18-year-old students. The reading text, entitled “Cartoon violence makes children more aggressive” (see Appendix A), is a one-page text of approximately 600 words. After reading the text, they had to write as many questions as possible related to the text. The time allocated for this activity was 80 minutes. No reading strategy instruction was applied in this stage.

Rereading the text and prioritizing three questions

Next, the participants were given 40 minutes to re-read the text and were asked to prioritize three questions. The reading strategy instruction applied by the researcher was as follows:

Reread the text and select three questions using the following instruction. The questions must be those that

- *most interest you*
- *are most important*
- *will best help you to solve the problem/ need to answer.*

Answering the selected three questions and writing reflections

The participants were given another 40 minutes to answer the selected three questions and write their reflection about the reading text. The guiding instructions given by the researcher to write the reflections were: “What did you learn from the text?”, “What is the value of learning to ask your own questions? “Can you think of similar situations in which you could apply what you have learnt from the text?”

Findings and Discussion

This section is divided into two sub-sections: (1) critical thinking elements in the questions before the application of RSI, and (2) critical thinking elements in (a) the selected three questions, (b) the answers, and (c) the reflections after the application of RSI.

To answer the first research question, the researcher used the modified critical thinking elements proposed by Mason (1991) and Henri (1992). Refer to Table 2 for the critical thinking elements. The data used is all the questions generated by the students (123 questions). The second research question, which deals with the three selected questions, the three answers, and the reflection, was answered by making use of the critical thinking elements described previously in Tables 3, 4 and 5.

Critical thinking elements in the questions

This section discusses the critical thinking elements found in the questions formulated by the participants. All in all, there were 123 questions produced by the 16 students.

Table 7
Summary of all questions before applying RSI

CT elements	Critical thinking & non-critical thinking	No. of questions
Posing topic focused questions	Focused	120 questions
	Non-focused	3 questions
Questions to gain new information/ ideas	In-depth	22 questions
	Superficial	3 questions
Questions related to ‘thinking out of box’	Investigative	21 questions
	Factual	4 questions
Questioning the author/facts given in the text	In-depth	13 questions
	Superficial	2 questions

From the table above, we can see that the participants were able to formulate topic focused questions, in-depth questions that have helped them to gain new knowledge and perspective, investigative questions that helped them to think differently (think out of the box), and criticize the author through their valid criticism questions. However, they also constructed three questions that neither made sense nor reflected critical thinking.

Critical thinking elements in the selected questions, answers, and reflections

After applying the reading strategy instruction, the following is what happened to the students:

(1) They discussed the relevant issues such as influence of violence in cartoons, impact and effects of watching violence cartoons in real life, reasons behind inclusion of violence in cartoons, media's influence on portraying violence, factors that affect the behaviour of young children, reasons of its popularity, violence as a source of entertainment, reasons of persuading violence among young children and inclusion of violence for gaining profit.

(2) They showed the new knowledge gained in their answers. Their answers showed positive aspect of watching cartoons such as 'how children learn more about team work through cartoons', themes like 'not to give up easily, friendship and loyalty.' They also gained knowledge on producers' unawareness of the consequences. In addition, children tend to copy their favourite characters as they feel it as a sense of '*pride*' and '*succession*.'

(3) They showed their background knowledge on the topic familiarity and their past experiences. They showed background knowledge on 'animated shows', 'genre of other cartoons', 'the role of the surroundings and environment that may shape the kids', 'psychological reasons and nature of children', 'TV programs', 'the reasons behind why producers include violence', 'evidences of applying the knowledge gained in violent cartoons in schools', 'personal connections', 'negative effects of watching cartoons', 'parents role and steps to prevent their kids by distinguishing what is good and evil', 'addiction towards cartoons' and 'comic cartoons.'

(4) They used personal experience which they had experienced and witnessed in their schools. One of the participants shared that he liked to watch cartoons as he finds fighting scenes as 'fun'. On the other hand, the other participant witnessed behaviour changes among peers in school, especially their relation with their teacher and peers.

(5) They related similar situations such as 'how their peers and siblings behave in schools' and could justify that such behaviour of their peers is due to the influence of watching cartoons.

(6) They showed that they could think unconventionally to gain new perspective. The new perspectives derived from them are: 'the positive side of the cartoons such as cartoons are educative', 'children to learn manners' and 'the environment that changes the behaviour of the children not cartoons.'

(7) They could identify the issues dealt in the text and tried to solve the issues by giving possible solutions. Majority of the participants gave solutions such as parents should supervise their kids, guide them, sit with them while their kids watch violent shows or cartoons and advise their kids not to follow whatever they watch on TV. One of the participant's solutions was different from the others, that is, if violence is removed in the cartoons, there are fewer chances for children to become aggressive as they cannot copy from the cartoons.

(8) They raised arguments and justified their arguments through valid reasoning. Their arguments were basically on the major ideas such as 'children always do not get influenced from watching cartoons', 'producer's intentions of including violence in the cartoons', and 'the bias in the survey.'

(9) They found the flaws in the text. Flaws such as the invalid study, title and the message given in the text were identified by the participants. They also justified their claim using their logical reasoning to support it. However, in certain occasions they failed to use logical reasoning to support their arguments on the flaws they identified in the text. In some cases, the logical reasoning provided by the participant is invalid.

(10) They composed both simple and complex sentences. Most of their complex sentences are good and unambiguous. However, there were also ambiguous sentences with punctuation, spelling and grammar errors.

Reflections

The students' reflections can be categorized into three: (i) the value of asking questions, (ii) relating similar situations, and (iii) lessons learnt (moral).

Value of asking questions

The participants answered the given question 'what is the value of asking questions?' in their reflections. According to them, asking questions helped them to think further and deeper on the topic rather than just accepting it, practice thinking skills, be open-minded, gather more information, prevent from receiving wrong or false information in real life, learn more about the topic, to develop critical thinking skills and understand the topic in depth. Some of the reflections are given below:

Participant 1: *It allows me to think further and deeper rather than just accepting it.*

Participant 2: *I learned that by asking questions, I can gather more information and it also allows me to think further and deeper rather than just accepting it. By asking more questions, it will prevent us from more in receiving wrong/false information in real life.*

Participant 3: *It helped me practice my critical thinking as I managed to ask and answer my own open-ended questions.*

Participant 4: *This allowed me to be more open-minded about my surroundings, which might not be what it seems.*

Relating similar situations

Reading becomes alive when we recognize how the ideas in the text connect to our experiences and beliefs, events happening in the world, our understanding of history, and our knowledge of other texts. Reading enables us to comprehend and make meaning of the ideas in the text. Second language learners comprehend better when they make different kinds of connections such as ‘Text-to-self’, ‘Text-to-text’, and ‘Text-to-world’ (Keene & Zimmerman, 1997).

- Text-to-self: personal connections that a reader makes between a reading material and the reader’s own experiences or life.
- Text-to-text: readers are reminded of other things that they have read, other books by the same author, stories from a similar genre, or perhaps on the same topic.
- Text-to-world: the larger connections that a reader brings to a reading situation such as ideas about how the world works that goes far beyond our own personal experiences: things through television, movies, magazines, and newspapers.

Text-to-self

The personal connections made by the participants are given below:

Participant 1: *When I was a child I used to think that cartoon such as dragon ball, Naruto is fun, the only part that I was watching it for the fighting scene cause I find it cool.*

Participant 2: *After I read the article, I feel like every points inside this article is really meaningful and really true since I can relate it to my childhood.*

Text-to-Text

The participants failed to connect the text they read to other books of the same author, other stories of similar genre, or the same topic. This, in my opinion, may be due to the fact that they had not read a similar topic before.

Text-to-World

The participants were able to make a connection between the text and a real life situation that happened around him.

Participant 1: *I can relate this to my nephew which is hyperactive and have a behaviour are resulted from watching modern cartoons that are considered too violent.*

Participant 2: *I can apply this in real life by supervising my little cousins when they are watching cartoons so that they are not influenced by violent shows.*

Participant 3: *I would limit my smaller siblings into watching cartoons.*

Lesson learnt after reading the text (applying/criticizing)

This section analysed the answers given by the participants to the question, 'What did you learn from the text?' in their reflections. The examples did not only show their understanding of the text but they also indicated that they could see the disadvantages of watching violent cartoons. Consider the following reflections:

Participant 1: *I learned that cartoons can actually give negative impacts towards children.*

Participant 2: *I learned more about the dangers that could happen to children, just from watching cartoon television programmes.*

Participant 3: *I learnt that not all cartoon movies are safe for children to watch.*

Participant 4: *I have learn that ordinary cartoon that seems innocent are considered violent for young viewers. It can trigger bad behaviour towards young viewers.*

Participant 5: *I learnt the possible consequences caused by cartoons to children.*

The following examples show that participants learnt how the way media manipulated and misused their targeted young audience.

Participant 6: *I learnt that people misused the media for their personal advantages.*

Participant 7: *I learned that the media plays a big role in controlling the mind even at a young age. It is already manipulating us. I would be more careful in watching and spreading cartoons around so people won't get affected.*

Participant 8: *I learned that TV shows and cartoons can be very influential to their target audience especially, kids.*

While the majority of the participants realised the consequences and the disadvantages of watching violent cartoons, the following participants expressed different views.

Participant 9: *I learnt that Pokémon is aggressive as viewed by some people but in my opinion I somehow in the middle as I also disagree with some of their points but I agree with most of the points.*

Participant 10: *I learn that cartoons are normally safe and free of violence however in some cartoons that might not be the case. [.....] It's best to see reviews of those who watched it and see whether any violence are shown and safe enough for children to watch. I could also try to do that now so I can watch less violence and become less physically aggressive.*

It is also interesting to observe that students could connect what they learnt from the text with a real-life situation, as demonstrated in the following:

Participant 11: *I can apply this in real life by supervising my little cousins when they're watching cartoons so that they are not influence by the violent shows. I can also apply this now,*

that I know that not all shows are good for myself. I can stop watching the shows that are promoting violent behaviour.

Participant 12: *I reached my decision which is to obey the censorship given by the company, such as “viewers below 18 are not suggested”. The reason is sometimes we could be stubborn and disobeying our more experienced acquaintances.*

The above discussions showed that the majority of the participants learnt about the disadvantages of watching violent cartoons. Few participants learnt that media is influential, it controls the young minds and may cause misuse for their personal benefits. Few participants not only learnt the moral value of the text but also applied it in their real life. However, they have failed to criticize the facts in their reflections.

Closing Remarks

The findings of the study showed that the use of reading strategy instruction was beneficial in promoting the critical thinking skills of the students especially in selecting questions, answering the three questions and writing reflections. The students were able to pose topic focused questions, question the facts and the author, to think out of the box, show prior background knowledge, justify arguments with valid reasoning, use personal knowledge, and relate similar situations to real-life situations. However, it was limited to text-to-self and text-to-world connections. The findings also showed that the participants have failed to use logical reasoning. Therefore, detailed instruction for selecting questions, making text-to-text connections, criticizing the facts in the reflection, and using logical reasoning can be given to the students. The reading strategy instruction that I have proposed for a reading class can be illustrated in Appendix B.

This study has insightful implications for educational researchers, teachers, and students. As a teacher-researcher, designing and conducting this study has encouraged me to adopt an additional technique in my second language reading class. This study provided me to know the students' way of thinking and questioning as they read. Introducing a new reading strategy instruction in a reading class is undoubtedly beneficial to promote the critical thinking skills of the learners.

Furthermore, findings from this study have encouraged me to use different kinds of reading strategy instructions in my second language reading classroom as I believe they can improve the learners' questioning

skills, reflect on what they have learnt, and improve their critical thinking skills.

One limitation of the study is that it was conducted only in one of the international schools in South Jakarta, where the majority of the students belonged to one nationality and culture. The number of students involved in this study was also very small. The results, therefore, may not be generalizable. Another limitation was that the study focused only on one area of critical thinking, i.e. critical thinking elements.

There are a few recommendations for future research. Firstly, it would be beneficial to replicate this study on a larger scale including both national and international schools and in various parts of Indonesia. Secondly, another major area of critical thinking that can be explored in future study is the levels of critical thinking.

More explicit instructions can be added in the future study especially the instructions while selecting questions, answering and reflecting. The findings showed that the participants had selected few non-critical thinking questions, and formulated questions that did not make sense.

The duration of the practice time may give significant results. The present study allotted only 40 minutes to practice on formulating questions. The future researchers can give them sufficient time (may be 2 x 40 minutes) to practice on how to formulate questions and select questions, so that the participants may perform better.

Future researchers can add more explicit instructions focusing on how to use logical reasoning in their answers. Although the findings showed that their answers reflected critical thinking elements, they failed to use logical reasoning in their answers.

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Appendix A

The reading text

Communication & media

Censorship

3 | News

Cartoon violence 'makes children more aggressive'

HIGH LEVELS of violence in cartoons such as Scooby-Doo can make children more aggressive, researchers claimed. They found that animated shows aimed at youngsters often have more brutality than programmes broadcast for general audiences. And they said [1] just as much as they would with screen actors. The study also found that [2] such as rumour-spreading, gossiping and eye-rolling.

The U.S. psychologists quizzed 95 girls aged 10 and 11 about their favourite TV shows, rating them for violent content and verbal and indirect aggression. The shows included 'Lost', 'Buffy the Vampire Slayer', 'American Idol', 'Scooby-Doo' and 'Pokemon'.

The researchers found that output aimed at children as young as seven, which included a number of cartoons, had the highest levels of violence. [3] compared with just five in shows aimed at general

audience and nine in programmes deemed unsuitable for under-14s.

'Results indicated that [4] than in programmes for general audiences,' the study said.

It added that the TV industry distinguished between animated violence and non-animated violence and appeared to rate the former as less harmful. 'There is ample evidence that animated, sanitised and fantasy violence has an effect on children,' the study's authors said.

'Research on the effects of violent video games, which are all animated, indicates that [5] that violent TV shows have demonstrated.

'[a], even cartoonish children's games increase aggression. Labelling certain types of media violence as "fantasy" violence is [b] and may actually serve to increase children's access to harmful violent content by [c] parental concern.'



Too violent? Children's favourite Pokemon

The study, by academics at Iowa State University and published in the Journal of Applied Developmental Psychology, [d] found that children copied at school the verbal aggression they [e] on TV.

It said: 'In addition, the effects of televised physical aggression were [f], such that exposure to televised physical aggression was associated with a variety of negative behaviours in girls.' This [g] behaviour included verbal and physical aggression and [h] others from friendship groups.

Co-author Jennifer Linder said: 'There is ample evidence that physical aggression on TV is associated with increases in aggressive behaviour. [i] there was little until this study that has shown a link between televised aggression and resulting aggression [j] children.'

Professor Douglas Gentile, who led the study, said content ratings on TV programmes should provide detailed information [k] the aggression shown. The U.S. introduced a ratings system in the mid-1990s but the idea has not been [l] in Britain.

Laura Clark



Cartoons aimed at children, such as Scooby Doo, contain more brutality than programmes meant for general audiences, a study has found.

Appendix B
Reading Strategy Instruction (RSI) Diagram

